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FIG. 1.

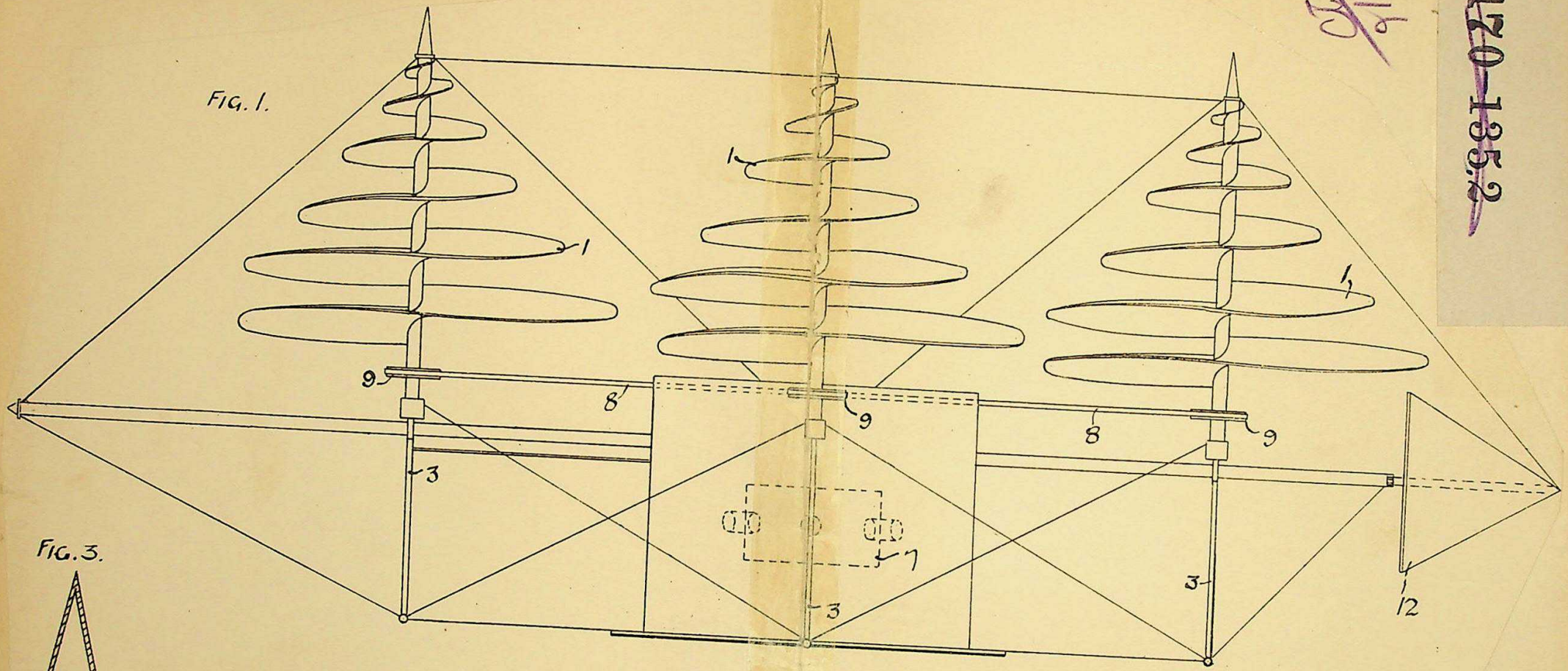

FIG. 3.

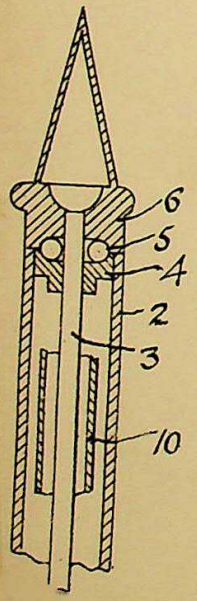

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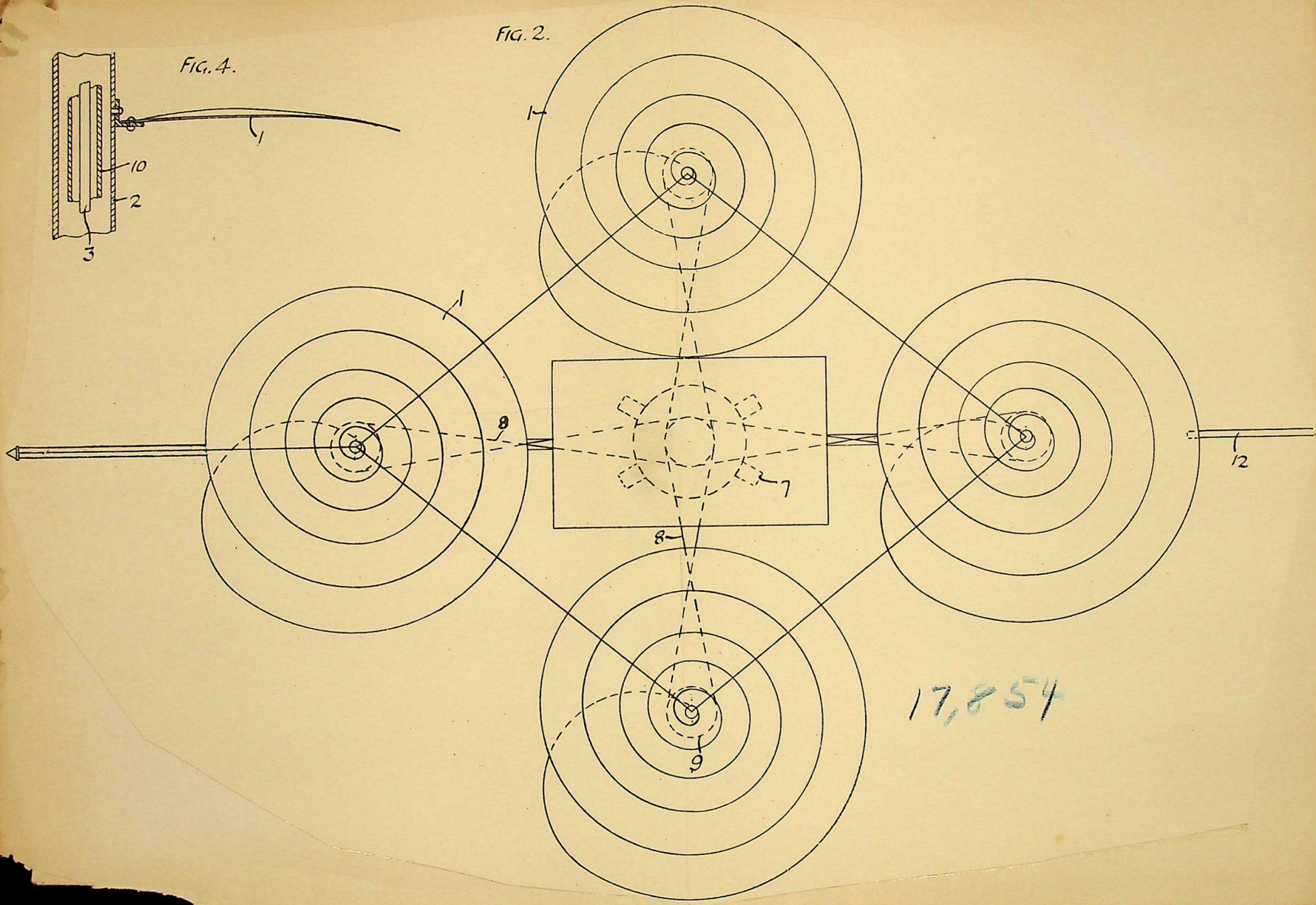
FIG. 4.

FIG. 2.



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DUPLICATE

N° 17,854 A.D. 1911

Date of Application, 5th Aug., 1911
Complete Specification Left, 10th Nov., 1911—Accepted, 11th Apr., 1912

PROVISIONAL SPECIFICATION.

Improvements in Apparatus for Effecting an Ascent or Descent of Flying Machines and the like.

I, James William Seckerson, of 14, Norman Street, Dudley, Builder, do hereby declare the nature of this invention to be as follows:—

This invention relates to apparatus for effecting an ascent or descent of flying machines and the like in a vertical manner thereby enabling a machine to rise or fall in a very small area and also facilitating and rendering the descent safer.

According to this invention I construct a spiral blade or blades which starts or start from a point or small surface at the top and increases gradually in superficial area to the bottom. These blades are attached to a central vertical tube or sleeve in which is located an upright standard provided at the top with suitable bearings upon which the tube or sleeve rotates. At the bottom of the said tube or sleeve I fix a pinion with which gears a toothed driving wheel which in turn is operated by hand or motive power.

The apparatus as above described is connected to, and arranged perpendicularly on, a flying machine or the like in any suitable position thereon.

With this construction, the turning of the driving wheel through the pinion on the tube or sleeve causes a rotation of the latter axially and thereby carries round the spiral blade or blades at a high rate of speed which can be regulated as circumstances require. Upon the rotation of the blade or blades, the flying machine is raised from the ground.

In order to confine the air to the blade or blades, they are made concave on the underside so as to give an air resistance and pressure.

The blades are constructed of light material such as aluminium or other light metal or material.

It may be desirable to put strengthening ties through the blade or blades to make the latter perfectly rigid.

In the descent of the machine, the blade or blades are rotated as aforesaid so as to retard the rate of fall.

Dated this 4th day of August, 1911.

GEORGE T. MILLARD,
Victoria Chambers, 32, Martineau Street, Birmingham,
Patent Agent for the Applicant.

COMPLETE SPECIFICATION.

Improvements in Apparatus for Effecting an Ascent or Descent of Flying Machines and the like.

I, James William Seckerson, of 14, Norman Street, Dudley, Builder, do hereby declare the nature of this invention and in what manner the same is

to be performed, to be particularly described and ascertained in and by the following statement;—

This invention relates to apparatus for effecting an ascent or descent of flying machines and the like in a vertical manner thereby enabling a machine to rise or fall in a very small area and also facilitating and rendering the descent safer.

The invention is described with reference to the accompanying drawings, the same letters of reference indicating similar parts throughout;—

Figure 1 is a side elevation of a flying machine with my invention applied thereto.

Figure 2 is a plan.

Figure 3 is a detail sectional view of the top of the tube on an enlarged scale.

Figure 4 is a part sectional view showing the attachment of the blade to the tube.

According to this invention there is provided a spiral blade or blades 1 which starts or start from a point or small surface at the top and increase gradually in superficial area to the bottom. In order to confine the air to the blade or blades they are made concave on the under face so as to give an air resistance and pressure. The blades are attached to a central vertical tube 2 by angle metal or the blade angled at the inner end, and in the tube 2 is located an upright shaft 3 provided at the top with suitable bearings such for example as the bottom cup 4, secured to or forming part of the shaft 3, balls 5 and upper bearing cup 6 secured to or forming part of the tube 2. At the bottom of the tube 2 is fixed any suitable toothed, belt or chain-driven gear whereby the tubes 2 can be driven by hand or motive power. This gear for convenience is not shown in the drawings. The engine 7 is placed in the centre of the machine.

Several of these helical blades or planes 1 may be arranged to work simultaneously through belting or chain 8 passing round pulleys or pinions 9 on the tubes 2 of the blades or planes 1. Or the spiral blades may be arranged to act independently at different times to each other by suitable arrangement in transmission.

The apparatus as above described is arranged perpendicularly on a flying machine or the like in any suitable position thereon.

In order to give rigidity to the shaft 3 an inner tube 10 may be inserted and connected to the said shaft by suitable cross stays in any known manner.

Upon the engine being set working, the tubes 2 are rotated and thereby carry round the spiral blades at a high rate of speed which can be regulated as circumstances require. Upon this action, the flying machine is raised from earth.

The blades are constructed of light material such as aluminium or other light metal or material.

It may be desirable to put strengthening ties through the blade or blades to make the latter perfectly rigid.

The descent of the machine may be retarded by a rotation of the blades in the same direction to that for ascent.

However, the descent may take place without any action of the blades in any ordinary manner.

Instead of four spiral blades as shown, I may employ one or any suitable number.

By the application of this device to a flying machine, I maintain there can be firstly, a vertical ascent; secondly, a vertical descent; thirdly, the machine can be made to remain practically stationary in the air; and fourthly, the machine can be tested as to its lifting and flying capabilities on a testing machine fixed to earth.

With the machine constructed as aforesaid in a rigid manner and the engine

working at the centre, the machine is perfectly balanced and is thereby rendered stable when meeting sudden gusts of winds or cross currents.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. In a flying machine, apparatus for effecting an ascent or descent of the machine comprising a vertically-axled spiral blade increasing diametrically from top to bottom substantially as described.

2. In a flying machine, apparatus for effecting an ascent or descent of the machine comprising a vertically-axled concave spiral blade increasing diametrically from top to bottom substantially as described.

3. In a flying machine, apparatus for effecting an ascent or descent of the machine substantially as described and illustrated.

Dated this 8th day of November, 1911.

GEORGE T. MILLARD,
Victoria Chambers, 32, Martineau Street, Birmingham,
Patent Agent for the Applicant.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1912.